AERONAUTICAL CHARTING FORUM
Instrument Procedures Group
Meeting 06-01 – April 18, 2006

RECOMMENDATION DOCUMENT
FAA Control # 06-01-263

Subject: Uniform Application of FAA Order 7130.3A RNAV Charted Holding Pattern Lengths

Background/Discussion: FAA holding pattern criteria (Order 7130.3A) permit charting of different RNAV holding pattern lengths, depending upon altitude. To assure adequate lateral clearance from obstacles, the published leg length should be in accordance with the holding pattern template used to evaluate obstacle clearance.

Attached is Table 8, which shows the leg length selection table, predicated upon the Pattern Number used for obstacle clearance. At both Cortez, CO (KCEZ) and Sun Valley, ID (KSUN), Pattern Size 10 was correctly used for obstacle clearance evaluation because, in both locations, the minimum holding altitude is 9,800 feet. Also attached are excerpts from the applicable Form 8260-2 that documents Pattern 10 for the holding fixes at both locations. Note that PRESN (KSUN) has a charted leg length of 6 NM, but YURVE (KCEZ) has a charted leg length of 8 NM. According to 7130.3A, Table 8, the leg length for both locations should be 7 NM. In the KSUN case the pattern length is unnecessarily restricted, but in the KCEZ case, the pattern is longer than permitted, which could erode lateral obstacle clearance. The National Flight procedures Group (NFPG) has informed NBAA the variances are the result of lack of policy guidance.

Recommendations: AFS-420 should provide precise guidance to AVN-100 that Table 8 of Order 7120.3A is to be applied to the pattern size used to determine the controlling obstruction, not the pattern used for airspace purposes. The safety issue in this matter is uniform protection from possible laterally higher obstacles. The obstacle risk is unknown because procedures are not evaluated for obstacles outside containment areas.

Comments: This proposal affects policy guidance provided by AFS-420 to AVN-100.

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6-4. GPS LEG LENGTH DETERMINATION. Table 8 contains the maximum leg length which may be specified for a GPS holding pattern based on distance rather than time. Enter table 8 with the holding pattern number from table 7 and read the maximum leg length.

TABLE 8. GPS HOLDING MAXIMUM OUTBOUND LEG LENGTH

Pattern Number	Maximum Outbound Leg Length (NM)	Pattern Number	Maximum Outbound Leg Length (NM)
3	4	17	10
4	4	18	11
5	4	19	11
6	5	20	12
7	6	21	12
8	6	22	12
9	7	23	12
10	7	24	13
11	8	25	13
12	8	26	14
13	9	27	14
14	9	28	15
15	10	29	16
16	10	30	16

4. AIR TRAFFIC REQUESTS APPROVAL OF REFERENCED FIX FOR:	NAME: PRESN, ID

A. REPORTING POINT		COMPULSORY	AIRSPACE STRUCTURE FOR WHICH FIX IS DESIRED	X	LOW ALTITUDE
	X	ON REQUEST			HIGH ALTITUDE

B. HOLDING

PAT.	SPEED	AIRSPACE		SPEED	AIRSPACE		SPEED	AIRSPACE		SPEED	AIRSPACE	
	230 K	L	H	265 K	L	H		L	H		L	H
1	98/140	11		140/150	16							

C. HOLDING AREAS	COMPLETELY WITHIN CONTROLLED AIRSPACE (*if answer is "NO" indicate Air Traffic action required in item 3 "REMARKS"*)	YES	NO
			X
	CLEAR OF RESTRICTED / WARNING AREAS	X	

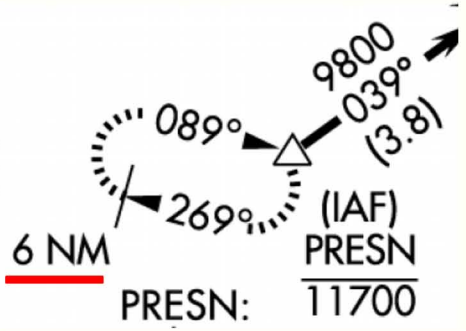
5. CHART PUBLICATION	X	REQUIRED
		NOT REQUIRED

		AREA	DP	STAR	JAL	AL	CONTROLLER	E/R LOW	E/R HIGH
FIX	PRESENT					X			
	REQUESTED					X		X	
HOLDING	PRESENT					X			
	REQUESTED					X			

6. ATC COORDINATION	DATE:	FACILITY:	NAME:

7. CONTROLLING OBSTRUCTIONS

PATTERN	AIRCRAFT	OBSTRUCTION	COORDINATES	ELEVATION(msl)	TEMPLATE	DETERMINATION
1	230	200' AAO (SLC-S-0826)	431145.80N/1143317.40W	6150 (6A)	P-10	IAPA & MAP STUDY



4. AIR TRAFFIC REQUESTS APPROVAL OF REFERENCED FIX FOR:	NAME: YURVE, CO

A. REPORTING POINT		COMPULSORY	AIRSPACE STRUCTURE FOR WHICH FIX IS DESIRED	X	LOW ALTITUDE
	X	ON REQUEST			HIGH ALTITUDE

B. HOLDING

PAT.	SPEED	AIRSPACE		SPEED	AIRSPACE		SPEED	AIRSPACE		SPEED	AIRSPACE	
	230 K	L	H		L	H		L	H		L	H
1	98/140	11										

C. HOLDING AREAS	COMPLETELY WITHIN CONTROLLED AIRSPACE (*if answer is "NO" indicate Air Traffic action required in item 3 "REMARKS"*)	YES	NO
		X	
	CLEAR OF RESTRICTED / WARNING AREAS	X	

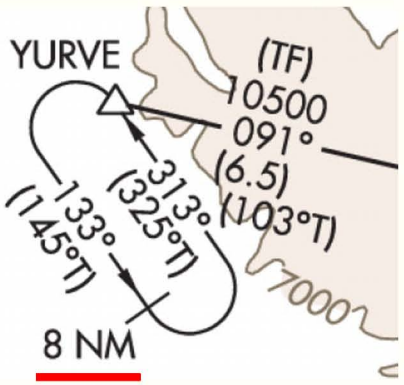
5. CHART PUBLICATION	X	REQUIRED
		NOT REQUIRED

		AREA	DP	STAR	JAL	AL	CONTROLLER	E/R LOW	E/R HIGH
FIX	PRESENT					X		X	
	REQUESTED					X		X	
HOLDING	PRESENT					X			
	REQUESTED					X			

6. ATC COORDINATION	DATE:	FACILITY:	NAME:

7. CONTROLLING OBSTRUCTIONS

PATTERN	AIRCRAFT	OBSTRUCTION	COORDINATES	ELEVATION(msl)	TEMPLATE	DETERMINATION
1	230	200' AAO	373730.00N/1083739.00W	8140 (4E)	P-10	IAPA & MAP STUDY



INITIAL DISCUSSION (Meeting 06-01): New issue introduced by Rich Boll, NBAA. NBAA is concerned that the NFPG may be incorrectly applying holding pattern leg lengths. Brad Rush, AJW-321, briefed that Order 7130.3A, Table 8 is not being used. Per the AFS-420 memorandum of June 17, 2004, which was prompted by issue 03-01-247, the NFPG is using Chapter 2 to determine holding pattern size and Appendix 1 to determine leg length. NBAA agrees with using Chapter 2 to determine pattern size; however, once size has been determined, then Table 8 should be used to specify leg length. NBAA also believes that the maximum leg length specified in Table 8 should also be considered the optimum length and has requested AFS-420 issue policy accordingly. There was also a discussion on holding pattern controlling obstacle documentation on FAA Form 8260-2. Danny Hamilton, AJW, 324, stated that Order 8260.19, paragraph 841j(2) requires evaluating the larger holding pattern but documenting the controlling obstacle for the smaller patter. This issue is also under discussion within the AJW-32/AFS-420 Criteria Coordinating Committee (CCC). Tom Schneider, AFS-420, agreed to take the issues (leg lengths and documentation requirements) for study within AFS-420. ACTION: AFS-420.
